California's

COMMON CORE

Content Standards

Sixth Grade

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California's

COMMON CORE

Content Standards for ELA and Mathematics Sixth Grade

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READING STANDARDS

The following standards offer a focus for instruction each year and help ensure that students gain adequate exposure to a range of texts and tasks. Rigor is also infused through the requirement that students read increasingly complex texts through the grades. *Students advancing through the grades are expected to meet each year's gradespecific standards and retain or further develop skills and understandings mastered in preceding grades.standards and retain or further develop skills and understandings mastered in preceding grades.*

LITERATURE

Key Ideas and Details

5TH	6TH	7TH
1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.	**1. Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.**	1. Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
2. Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.	**2. Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.**	2. Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text.
3. Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).	**3. Describe how a particular story's or drama's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves toward a resolution.**	3. Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot)

Craft and Structure

4. Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.	**4. Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone.**	4. Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of rhymes and other repetitions of sounds (e.g., alliteration) on a specific verse or stanza of a poem or section of a story or drama.
5. Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.	**5. Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot.**	5. Analyze how a drama's or poem's form or structure (e.g., soliloquy, sonnet) contributes to its meaning.

READING STANDARDS

5TH	6TH	7TH
6. Describe how a narrator's or speaker's point of view influences how events are described.	**6. Explain how an author develops the point of view of the narrator or speaker in a text**	6. Analyze how an author develops and contrasts the points of view of different characters or narrators in a text.
Integration of Knowledge and Ideas		
7. Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem).	**7. Compare and contrast the experience of reading a story, drama, or poem to listening to or viewing an audio, video, or live version of the text, including\ contrasting what they "see" and "hear" when reading the text to what they perceive when they listen or watch**	7. Compare and contrast a written story, drama, or poem to its audio, filmed, staged, or multimedia version, analyzing the effects of techniques unique to each medium (e.g., lighting, sound, color, or camera focus and angles in a film).
8. (Not applicable to literature)	**8. (Not applicable to literature)**	8. (Not applicable to literature)
9. Compare and contrast stories in the same genre (e.g., mysteries and adventure stories) on their approaches to similar themes and topics.	**9. Compare and contrast texts in different forms or genres (e.g., stories and poems; historical novels and fantasy stories) in terms of their approaches to similar themes and topics.**	9. Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history.
Range of Reading & Level of Text Complexity		
10. By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 4–5 text complexity band independently and proficiently.	**10. By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.**	10. By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.

READING STANDARDS

INFORMATIONAL TEXT

Key Ideas and Details

5TH	6TH	7TH
1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.	**1. Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.**	1. Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
2. Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.	**2. Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.**	2. Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text.
3. Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.	**3. Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text (e.g., through examples or anecdotes).**	3. Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).

Craft and Structure

4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area. (See grade 5 Language standards 4-6 on page 22 for additional expectations.)	**4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.**	4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of a specific word choice on meaning and tone.
5. Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.	**5. Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text and contributes to the development of the ideas.** **a. Analyze the use of text features (e.g., graphics, headers, captions) in popular media.**	5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to the development of the ideas. a. Analyze the use of text features (e.g., graphics, headers, captions) in public documents.
6. Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.	**6. Determine an author's point of view or purpose in a text and explain how it is conveyed in the text.**	6. Determine an author's point of view or purpose in a text and analyze how the author distinguishes his or her position from that of others.

READING STANDARDS

5TH	6TH	7TH
Integration of Knowledge and Ideas		
7. Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.	**7. Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue..**	7. Compare and contrast a text to an audio, video, or multimedia version of the text, analyzing each medium's portrayal of the subject (e.g., how the delivery of a speech affects the impact of the words).
8. Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).	**8. Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not.**	8. Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.
9. Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably	**9. Compare and contrast one author's presentation of events with that of another (e.g., a memoir written by and a biography on the same person).**	9. Analyze how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts.
Range of Reading & Level of Text Complexity		
10. By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4–5 text complexity band independently and proficiently.	**10. By the end of the year, read and comprehend literary nonfiction in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.**	10. By the end of the year, read and comprehend literary nonfiction in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.

WRITING STANDARDS

The following standards for grades 6–12 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Each year in their writing, students should demonstrate increasing sophistication in all aspects of language use, from vocabulary and syntax to the development and organization of ideas, and they should address increasingly demanding content and sources. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades*

WRITING

Text Types & Purposes

5TH

1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
   a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose.
   b. Provide logically ordered reasons that are supported by facts and details.
   c. Link opinion and reasons using words, phrases, and clauses (e.g., consequently, specifically).
   d. Provide a concluding statement or section related to the opinion presented.

6TH

1. Write arguments to support claims with clear reasons and relevant evidence.
   a. Introduce claim(s) and organize the reasons and evidence clearly. Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text.
   c. Use words, phrases, and clauses to clarify the relationships among claim(s) and reasons.
   d. Establish and maintain a formal style.
   e. Provide a concluding statement or section that follows from the argument presented.

7TH

1. Write arguments to support claims with clear reasons and relevant evidence.
   a. Introduce claim(s), acknowledge <u>and address</u> alternate or opposing claims, and organize the reasons and evidence logically.
   b. Support claim(s) <u>or counterarguments</u> with logicalreasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.
   c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence.
   d. Establish and maintain a formal style.
   e. Provide a concluding statement or section that follows from and supports the argument presented.

WRITING STANDARDS

5TH

2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
   a. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
   b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
   c. Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially).
   d. Use precise language and domain-specific vocabulary to inform about or explain the topic.
   e. Provide a concluding statement or section related to the information or explanation presented.

6TH

2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
   a. Introduce a topic **or thesis statement**; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/ contrast, and cause/ effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
   b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.
   c. Use appropriate transitions to clarify them relationships among ideas and concepts.
   d. Use precise language and domain-specific vocabulary to inform about or explain the topic.
   e. Establish and maintain a formal style.
   f. Provide a concluding statement or section that follows from the information or explanation presented.

7TH

2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
   a. Introduce a topic or thesis statement clearly, previewing what is to follow; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/ contrast, and cause/ effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
   b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.
   c. Use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts.
   d. Use precise language and domain-specific vocabulary to inform about or explain the topic.
   e. Establish and maintain a formal style.
   f. Provide a concluding statement or section that follows from and supports the information or explanation presented.

WRITING STANDARDS

5TH	6TH	7TH
Text Types & Purposes		
3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. a. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. b. Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations. c. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. d. Use concrete words and phrases and sensory details to convey experiences and events precisely. e. Provide a conclusion that follows from the narrated experiences or events.	3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences. a. Engage and orient the reader by establishing a context and introducing a narrator and/ orcharacters; organize an event sequence that unfolds naturally and logically. b. Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters. c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another. d. Use precise words and phrases, relevant descriptive details, and sensory language to convey experiences and events. e. Provide a conclusion that follows rom the narrated experiences or events.	3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences. a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically. b. Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters. c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another. d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events. e. Provide a conclusion that follows from and reflects on the narrated experiences or events.
Production & Distribution of Writing		
4. Produce clear and coherent writing (including multiple-paragraph texts) in which the development and organization are appropriate to task, purpose, and audience.	4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)	4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Gradespecific expectations for writing types are defined in standards 1–3 above.)
5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

WRITING STANDARDS

5TH	6TH	7TH
6. With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.	**6. Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.**	6. Use technology, including the Internet, to produce and publish writing and link to and cite sources as well as to interact and collaborate with others, including linking to and citing sources.
Research to Build & Present Knowledge		
7. Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic	**7. Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.**	7. Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.
8. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.	**8. Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.**	8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation..
9. Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply grade 5 Reading standards to literature (e.g., "Compare and contrast two or more characters, settings, or events in a story or a drama, drawing on specific details in the text [e.g., how characters interact]"). b. Apply grade 5 Reading standards to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point[s]").	**9. Draw evidence from literary or informational texts to support analysis, reflection, and research.** **a. Apply grade 6 Reading standards to literature (e.g., "Compare and contrast texts in different forms or genres [e.g., stories and poems; historical novels and fantasy stories] in terms of their approaches to similar themes and topics").** **b. Apply grade 6 Reading standards to literary nonfiction (e.g., "Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not").**	9. Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply grade 7 Reading standards to literature (e.g., "Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history"). b. Apply grade 7 Reading standards to literary nonfiction (e.g. "Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims").
Range of Writing		
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	**10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.**	10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

SPEAKING & LISTENING

The following standards for grades 6-12 offer a focus for instruction in each year to help ensure that students gain adequate mastery of a range of skills and applications. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

Comprehension & Collaboration

5TH	6TH	7TH
1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacherled) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions	1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacherled) with diverse partners on *grade 6 topics, texts, and issues*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.	1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacherled) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referrin to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with releveant observations and ideas that bring the discussion back on topic as neeeded.. d. Acknowledge new information expressed by others and, when warranted, modify their own views.
2. Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.	2. Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.	2. Analyze the main ideas and supporting details presented in diverse media and formats (e.g.,visually, quantitatively, orally) and explain how theideas clarify a topic, text, or issue under study.
3. Summarize the points a speaker <u>or media source</u> makes and explain how each claim is supported by reasons and evidence, <u>and identify and analyze any logical fallacies.</u>	3. Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.	3. Delineate a speaker's argument and specific claims, <u>and attitude toward the subject</u>, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.

SPEAKING & LISTENING

Presentation of Knowledge & Ideas

5TH	6TH	7TH
4. Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. a. Plan and deliver an opinion speech that: states an opinion, logically sequences evidence to support the speaker's position, uses transition words to effectively link opinions and evidence (e.g., consequently and therefore), and provides a concluding statement related to the speaker's position. b. Memorize and recite a poem or section of a speech or historical document using rate, expression, and gestures appropriate to the selection.	4. Present claims and findings (**e.g., argument, narrative, informative, response to literature presentations)**, sequencing ideas logically and using pertinent descriptions, facts, and details **and nonverbal elements** to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation. **a. Plan and deliver an informative/ explanatory presentation that: develops a topic with relevant facts, definitions, and concrete details; uses appropriate transitions to clarify relationships; uses precise language and domain specific vocabulary; and provides a strong conclusion.**	4. Present claims and findings (e.g., argument, narrative, summary presentations), emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation. a. Plan and present an argument that: supports a claim, acknowledges counterarguments, organizes evidence logically, uses words and phrases to create cohesion, and provides a concluding statement that supports the argumentpresented.
5. Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.	5. Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.	5. Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.
6. Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation.	6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.	6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

LANGUAGE STANDARDS

The following standards for grades K-5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades*. Beginning in grade 3, skills and understandings that are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking are marked with an asterisk (*).

Conventions of Standard English

5TH

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
   a. Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences.
   b. Form and use the perfect (e.g., *I had walked; I have walked; I will have walked*) verb tenses.
   c. Use verb tense to convey various times, sequences, states, and conditions.
   d. Recognize and correct inappropriate shifts in verb tense.*
   e. Use correlative conjunctions (e.g., *either/or, neither/nor*).

2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
   a. Use punctuation to separate items in a series.*
   b. Use a comma to separate an introductory element from the rest of the sentence.
   c. Use a comma to set off the words yes and no (e.g., *Yes, thank you*), to set off a tag question from the rest of the sentence (e.g., *It's true, isn't it?*), and to indicate direct address (e.g., *Is that you, Steve?*).
   d. Use underlining, quotation marks, or italics to indicate titles of works.
   e. Spell grade-appropriate words correctly, consulting references as needed

6TH

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
   a. Ensure that pronouns are in the proper case (subjective, objective, possessive).
   b. Use **all pronouns, including** intensive pronouns (e.g., *myself, ourselves*), **correctly**.
   c. Recognize and correct inappropriate shifts in pronoun number and person.*
   d. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).*
   e. Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.*

2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
   a. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.*
   b. Spell correctly.

7TH

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
   a. Explain the function of phrases and clauses in general and their function in specific sentences.
   b. Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas.
   c. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.*

2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
   a. Use a comma to separate coordinate adjectives (e.g., *It was a fascinating, enjoyable movie* but not *He wore an old[,] green shirt*).
   b. Spell correctly.

LANGUAGE STANDARDS

5TH	6TH	7TH
Knowledge of Language		
3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Expand, combine, and reduce sentences for meaning, reader/listener interest, and style. b. Compare and contrast the varieties of English (e.g., dialects, registers) used in stories, dramas, or poems	3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Vary sentence patterns for meaning, reader/listener interest, and style.* b. Maintain consistency in style and tone.*	3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.*
Vocabulary Acquisition and Use		
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 5 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., cause/effect relationshipsand comparisons in text) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *photograph, photosynthesis*). c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases <u>and to identify alternate word choices *in all content areas.*</u>	4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 6 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *audience, auditory, audible*). c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in	4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 7 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *belligerent, bellicose, rebel*). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech <u>or trace the etymology of words.</u> d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

LANGUAGE STANDARDS

Vocabulary Acquisition and Use

5TH	6TH	7TH
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figurative language, including similes and metaphors, in context. b. Recognize and explain the meaning of common idioms, adages, and proverbs. c. Use the relationship between particular words (e.g., synonyms, antonyms, homographs) to better understand each of the words.	5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figures of speech (e.g., personification) in context. b. Use the relationship between particular words (e.g., cause/effect, part/whole, item/category) to better understand each of the words. c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *stingy, scrimping, economical, unwasteful, thrifty*).	5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figures of speech (e.g., literary, biblical, and mythological allusions) in context. b. Use the relationship between particular words (e.g., synonym/antonym, analogy) to better understand each of the words. c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *refined, respectful, polite, diplomatic, condescending*).
6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., *however, although, nevertheless, similarly, moreover, in addition*).	6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.	6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

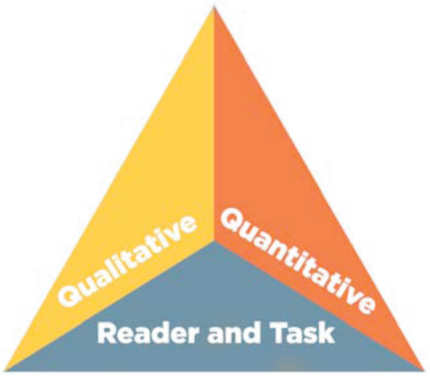
LANGUAGE PROGRESSIVE SKILLS, BY GRADE

The following skills, marked with an asterisk (*) in Language standards 1–3, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.

Standard	Grade(s)							
	3	4	5	6	7	8	9–10	11–12
L.3.1f. Ensure subject-verb and pronoun-antecedent agreement.								
L.3.3a. Choose words and phrases for effect.								
L.4.1f. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.								
L.4.1g. Correctly use frequently confused words (e.g., *to/too/two; there/their*).								
L.4.3a. Choose words and phrases to convey ideas precisely.*								
L.4.3b. Choose punctuation for effect.								
L.5.1d. Recognize and correct inappropriate shifts in verb tense.								
L.5.2a. Use punctuation to separate items in a series.†								
L.6.1c. Recognize and correct inappropriate shifts in pronoun number and person.								
L.6.1d. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).								
L.6.1e. Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.								
L.6.2a. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.								
L.6.3a. Vary sentence patterns for meaning, reader/listener interest, and style.‡								
L.6.3b. Maintain consistency in style and tone.								
L.7.1c. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.								
L.7.3a. Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.								
L.8.1d. Recognize and correct inappropriate shifts in verb voice and mood.								
L.9–10.1a. Use parallel structure.								

*Subsumed by L.7.3a
†Subsumed by L.9–10.1a
‡Subsumed by L.11–12.3a

Measuring Text Complexity: Three Factors



Qualitative evaluation of the text: Levels of meaning, structure, language conventionality and clarity, and knowledge demands

Quantitative evaluation of the text: Readability measures and other scores of text complexity

Matching reader to text and task: Reader variables (such as motivation, knowledge, and experiences) and task variables (such as purpose and the complexity generated by the task assigned and the questions posed)

Note: More detailed information on text complexity and how it is measured is contained in Appendix A

Range of Text Types for K-5

Students in grades K-5 apply the Reading standards to the following range of text types, with texts selected from a broad range of cultures and periods.

Literature			Informational Text
Stories	**Drama**	**Poetry**	**Literary Nonfiction**
Includes children's adventure stories, folktales, legends, fables, fantasy, realistic fiction, and myth	Includes staged dialogue and brief familiar scenes	Includes nursery rhymes and the subgenres of the narrative poem, limerick, and free verse poem	Includes biographies and autobiographies; books about history, social studies, science, and the arts; technical texts, including directions, forms, and information displayed in graphs, charts, or maps; and digital sources on a range of topics

TEXT ILLUSTRATING THE COMPLEXITY, QUALITY, AND RANGE OF STUDENT READING K-5

	Literature: Stories, Dramas, Poetry	Informational Texts: Literary Nonfiction and Historical, Scientific, and Technical Texts
K*	• *Over in the Meadow* by John Langstaff (traditional) (c1800)* • *A Boy, a Dog, and a Frog* by Mercer Mayer (1967) • *Pancakes for Breakfast* by Tomie DePaola (1978) • *A Story, A Story* by Gail E. Haley (1970)* • *Kitten's First Full Moon* by Kevin Henkes (2004)*	• *My Five Senses* by Aliki (1962)** • *Truck* by Donald Crews (1980) • *I Read Signs* by Tana Hoban (1987) • *What Do You Do With a Tail Like This?* by Steve Jenkins and Robin Page (2003)* • *Amazing Whales!* by Sarah L. Thomson (2005)*
1*	• "Mix a Pancake" by Christina G. Rossetti (1893)** • *Mr. Popper's Penguins* by Richard Atwater (1938)* • *Little Bear* by Else Holmelund Minarik, illustrated by Maurice Sendak (1957)** • *Frog and Toad Together* by Arnold Lobel (1971)** • *Hi! Fly Guy* by Tedd Arnold (2006)	• *A Tree Is a Plant* by Clyde Robert Bulla, illustrated by Stacey Schuett (1960)** • *Starfish* by Edith Thacher Hurd (1962) • *Follow the Water from Brook to Ocean* by Arthur Dorros (1991)** • *From Seed to Pumpkin* by Wendy Pfeffer, illustrated by James Graham Hale (2004)* • *How People Learned to Fly* by Fran Hodgkins and True Kelley (2007)*
2-3	• "Who Has Seen the Wind?" by Christina G. Rossetti (1893) • *Charlotte's Web* by E. B. White (1952)* • *Sarah, Plain and Tall* by Patricia MacLachlan (1985) • *Tops and Bottoms* by Janet Stevens (1995) • *Poppleton in Winter* by Cynthia Rylant, illustrated by Mark Teague (2001)	• *A Medieval Feast* by Aliki (1983) • *From Seed to Plant* by Gail Gibbons (1991) • *The Story of Ruby Bridges* by Robert Coles (1995)* • *A Drop of Water: A Book of Science and Wonder* by Walter Wick (1997) • *Moonshot: The Flight of Apollo 11* by Brian Floca (2009)
4-5	• *Alice's Adventures in Wonderland* by Lewis Carroll (1865) • "Casey at the Bat" by Ernest Lawrence Thayer (1888) • *The Black Stallion* by Walter Farley (1941) • "Zlateh the Goat" by Isaac Bashevis Singer (1984) • *Where the Mountain Meets the Moon* by Grace Lin (2009)	• *Discovering Mars: The Amazing Story of the Red Planet* by Melvin Berger (1992) • *Hurricanes: Earth's Mightiest Storms* by Patricia Lauber (1996) • *A History of US* by Joy Hakim (2005) • *Horses* by Seymour Simon (2006) • *Quest for the Tree Kangaroo: An Expedition to the Cloud Forest of New Guinea* by Sy Montgomery (2006)

Note: Given space limitations, the illustrative texts listed above are meant only to show individual titles that are representative of a wide range of topics and genres. (See Appendix B for excerpts of these and other texts illustrative of K–5 text complexity, quality, and range.) At a curricular or instructional level, within and across grade levels, texts need to be selected around topics or themes that generate knowledge and allow students to study those topics or themes in depth. On the next page is an example of progressions of texts building knowledge across grade levels.

*Children at the kindergarten and grade 1 levels should be expected to read texts independently that have been specifically written to correlate to their reading level and their word knowledge. Many of the titles listed above are meant to supplement carefully structured independent reading with books to read along with a teacher or that are read aloud to students to build knowledge and cultivate a joy in reading.

STAYING ON TOPIC WITHIN A GRADE AND ACROSS GRADES: HOW TO BUILD KNOWLEDGE SYSTEMATICALLY IN ENGLISH LANGUAGE ARTS K-5

Building knowledge systematically in English language arts is like giving children various pieces of a puzzle in each grade that, over time, will form one big picture. At a curricular or instructional level, texts—within and across grade levels—need to be selected around topics or themes that systematically develop the knowledge base of students. Within a grade level, there should be an adequate number of titles on a single topic that would allow children to study that topic for a sustained period. The knowledge children have learned about particular topics in early grade levels should then be expanded and developed in subsequent grade levels to ensure an increasingly deeper understanding of these topics. Children in the upper elementary grades will generally be expected to read these texts independently and reflect on them in writing. However, children in the early grades (particularly K–2) should participate in rich, structured conversations with an adult in response to the written texts that are read aloud, orally comparing and contrasting as well as analyzing and synthesizing, in the manner called for by the Standards.

Preparation for reading complex informational texts should begin at the very earliest elementary school grades. What follows is one example that uses domain-specific nonfiction titles across grade levels to illustrate how curriculum designers and classroom teachers can infuse the English language arts block with rich, age-appropriate content knowledge and vocabulary in history/social studies, science, and the arts. Having students listen to informational read-alouds in the early grades helps lay the necessary foundation for students' reading and understanding of increasingly complex texts on their own in subsequent grades.

Exemplar Texts on a Topic Across Grades	K	1	2–3	4–5
The Human Body Students can begin learning about the human body starting in kindergarten and then review and extend their learning during each subsequent grade.	**The five senses and associated body parts** • *My Five Senses* by Aliki (1989) • *Hearing* by Maria Rius (1985) • *Sight* by Maria Rius (1985) • *Smell* by Maria Rius (1985) • *Taste* by Maria Rius (1985) • *Touch* by Maria Rius (1985) **Taking care of your body: Overview (hygiene, diet, exercise, rest)** • *My Amazing Body: A First Look at Health & Fitness* by Pat Thomas (2001) • *Get Up and Go!* by Nancy Carlson (2008) • *Go Wash Up* by Doering Tourville (2008) • *Sleep* by Paul Showers (1997) • *Fuel the Body* by Doering Tourville (2008)	**Introduction to the systems of the human body and associated body parts** • *Under Your Skin: Your Amazing Body* by Mick Manning (2007) • *Me and My Amazing Body* by Joan Sweeney (1999) • *The Human Body* by Gallimard Jeunesse (2007) • *The Busy Body Book* by Lizzy Rockwell (2008) • *First Encyclopedia of the Human Body* by Fiona Chandler (2004) **Taking care of your body: Germs, diseases, and preventing illness** • *Germs Make Me Sick* by Marilyn Berger (1995) • *Tiny Life on Your Body* by Christine Taylor-Butler (2005) • *Germ Stories* by Arthur Kornberg (2007) • *All About Scabs* by GenichiroYagu (1998)	**Digestive and excretory systems** • *What Happens to a Hamburger* by Paul Showers (1985) • *The Digestive System* by Christine Taylor-Butler (2008) • *The Digestive System* by Rebecca L. Johnson (2006) • *The Digestive System* by Kristin Petrie (2007) **Taking care of your body: Healthy eating and nutrition** • *Good Enough to Eat* by Lizzy Rockwell (1999) • *Showdown at the Food Pyramid* by Rex Barron (2004) **Muscular, skeletal, and nervous systems** • *The Mighty Muscular and Skeletal Systems* Crabtree Publishing (2009) • *Muscles* by Seymour Simon (1998) • *Bones* by Seymour Simon (1998) • *The Astounding Nervous System* Crabtree Publishing (2009) • *The Nervous System* by Joelle Riley (2004)	**Circulatory system** • *The Heart* by Seymour Simon (2006) • *The Heart and Circulation* by Carol Ballard (2005) • *The Circulatory System* by Kristin Petrie (2007) • *The Amazing Circulatory System* by John Burstein (2009) **Respiratory system** • *The Lungs* by Seymour Simon (2007) • *The Respiratory System* by Susan Glass (2004) • *The Respiratory System* by Kristin Petrie (2007) • *The Remarkable Respiratory System* by John Burstein (2009) **Endocrine system** • *The Endocrine System* by Rebecca Olien (2006) • *The Exciting Endocrine System* by John Burstein (2009)

MATHEMATICS STANDARDS

INTRODUCTION

Toward greater focus and coherence

Mathematics experiences in early childhood settings should concentrate on (1) number (which includes whole number, operations, and relations) and (2) geometry, spatial relations, and measurement, with more mathematics learning time devoted to number than to other topics. Mathematical process goals should be integrated in these content areas.

—National Research Council, 2009

The composite standards [of Hong Kong, Korea and Singapore] have a number of features that can inform an international benchmarking process for the development of K–6 mathematics standards in the U.S. First, the composite standards concentrate the early learning of mathematics on the number, measurement, and geometry strands with less emphasis on data analysis and little exposure to algebra. The Hong Kong standards for grades 1–3 devote approximately half the targeted time to numbers and almost all the time remaining to geometry and measurement.

— Ginsburg, Leinwand and Decker, 2009

Because the mathematics concepts in [U.S.] textbooks are often weak, the presentation becomes more mechanical than is ideal. We looked at both traditional and non-traditional textbooks used in the US and found this conceptual weakness in both.

— Ginsburg et al., 2005

There are many ways to organize curricula. The challenge, now rarely met, is to avoid those that distort mathematics and turn off students.

— Steen, 2007

For over a decade, research studies of mathematics education in high-performing countries have pointed to the conclusion that the mathematics curriculum in the United States must become substantially more focused and coherent in order to improve mathematics achievement in this country. To deliver on the promise of common standards, the standards must address the problem of a curriculum that is "a mile wide and an inch deep." These Standards are a substantial answer to that challenge.

It is important to recognize that "fewer standards" are no substitute for focused standards. Achieving "fewer standards" would be easy to do by resorting to broad, general statements. Instead, these Standards aim for clarity and specificity.

Assessing the coherence of a set of standards is more difficult than assessing their focus. William Schmidt and Richard Houang (2002) have said that content standards and curricula are coherent if they are:

> *articulated over time as a sequence of topics and performances that are logical and reflect, where appropriate, the sequential or hierarchical nature of the disciplinary content from which the subject matter derives. That is, what and how students are taught should reflect not only the topics that fall within a certain academic discipline,* ***but also the key ideas*** *that determine how knowledge is organized and generated within that discipline. This implies that "to be coherent," a set of content standards must evolve from particulars (e.g., the meaning and operations of whole numbers, including simple math facts and routine computational procedures associated with whole numbers and fractions) to deeper structures inherent in the discipline. These deeper structures then serve as a means for connecting the particulars (such as an understanding of the rational number system and its properties). (emphasis added)*

These Standards endeavor to follow such a design, not only by stressing conceptual understanding of key ideas, but also by continually returning to organizing principles such as place value or the laws of arithmetic to structure those ideas.

In addition, the "sequence of topics and performances" that is outlined in a body of mathematics standards must also respect what is known about how students learn. As Confrey (2007) points out, developing "sequenced obstacles and challenges for students…absent the insights about meaning that derive from careful study of learning, would be unfortunate and unwise." In recognition of this, the development of these Standards began with research-based learning progressions detailing what is known today about how students' mathematical knowledge, skill, and understanding develop over time.

MATHEMATICS STANDARDS

Understanding mathematics

These Standards define what students should understand and be able to do in their study of mathematics. Asking a student to understand something means asking a teacher to assess whether the student has understood it. But what does mathematical understanding look like? One hallmark of mathematical understanding is the ability to justify, in a way appropriate to the student's mathematical maturity, why a particular mathematical statement is true or where a mathematical rule comes from. There is a world of difference between a student who can summon a mnemonic device to expand a product such as (a + b)(x + y) and a student who can explain where the mnemonic comes from. The student who can explain the rule understands the mathematics, and may have a better chance to succeed at a less familiar task such as expanding (a + b + c)(x + y). Mathematical understanding and procedural skill are equally important, and both are assessable using mathematical tasks of sufficient richness.

The Standards set grade-specific standards but do not define the intervention methods or materials necessary to support students who are well below or well above grade-level expectations. It is also beyond the scope of the Standards to define the full range of supports appropriate for English language learners and for students with special needs. At the same time, all students must have the opportunity to learn and meet the same high standards if they are to access the knowledge and skills necessary in their post-school lives. The Standards should be read as allowing for the widest possible range of students to participate fully from the outset, along with appropriate accommodations to ensure maximum participaton of students with special education needs. For example, for students with disabilities reading should allow for use of Braille, screen reader technology, or other assistive devices, while writing should include the use of a scribe, computer, or speech-to-text technology. In a similar vein, speaking and listening should be interpreted broadly to include sign language. No set of grade-specific standards can fully reflect the great variety in abilities, needs, learning rates, and achievement levels of students in any given classroom. However, the Standards do provide clear signposts along the way to the goal of college and career readiness for all students.

<table>
<tr><th>K</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>HS</th></tr>
<tr><td>Counting & Cardinality</td><td colspan="9"></td></tr>
<tr><td colspan="5">Number & Operations Base Ten</td><td colspan="2">Ratios & Proportional Relationships</td><td></td><td rowspan="2">Number & Quantity</td></tr>
<tr><td colspan="3"></td><td colspan="2">Number & Operations Fractions</td><td colspan="3">The Number System</td></tr>
<tr><td colspan="5" rowspan="2">Operations & Algebraic Thinking</td><td colspan="3">Expressions & Equations</td><td>Algebra</td></tr>
<tr><td colspan="2"></td><td>Functions</td><td>Functions</td></tr>
<tr><td colspan="9">Geometry</td><td>Geometry</td></tr>
<tr><td colspan="5">Measurement & Data</td><td colspan="3">Statistics & Probability</td><td>Statistics & Probability</td></tr>
</table>

Findell & Foughty (2011)

College and Career-Readiness through the Common Core State Standards for Mathematics

MATHEMATICS STANDARDS

GRADE 6 - OVERVIEW

In Grade 6, instructional time should focus on four critical areas: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; and (4) developing understanding of statistical thinking.

1. Students use reasoning about multiplication and division to solve ratio and rate problems about quantities. By viewing equivalent ratios and rates as deriving from, and extending, pairs of rows (or columns) in the multiplication table, and by analyzing simple drawings that indicate the relative size of quantities, students connect their understanding of multiplication and division with ratios and rates. Thus students expand the scope of problems for which they can use multiplication and division to solve problems, and they connect ratios and fractions. Students solve a wide variety of problems involving ratios and rates.

2. Students use the meaning of fractions, the meanings of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for dividing fractions make sense. Students use these operations to solve problems. Students extend their previous understandings of number and the ordering of numbers to the full system of rational numbers, which includes negative rational numbers, and in particular negative integers. They reason about the order and absolute value of rational numbers and about the location of points in all four quadrants of the coordinate plane.

3. Students understand the use of variables in mathematical expressions. They write expressions and equations that correspond to given situations, evaluate expressions, and use expressions and formulas to solve problems. Students understand that expressions in different forms can be equivalent, and they use the properties of operations to rewrite expressions in equivalent forms. Students know that the solutions of an equation are the values of the variables that make the equation true. Students use properties of operations and the idea of maintaining the equality of both sides of an equation to solve simple one-step equations. Students construct and analyze tables, such as tables of quantities that are in equivalent ratios, and they use equations (such as $3x = y$) to describe relationships between quantities.

4. Building on and reinforcing their understanding of number, students begin to develop their ability to think statistically. Students recognize that a data distribution may not have a definite center and that different ways to measure center yield different values. The median measures center in the sense that it is roughly the middle value. The mean measures center in the sense that it is the value that each data point would take on if the total of the data values were redistributed equally, and also in the sense that it is a balance point. Students recognize that a measure of variability (interquartile range or mean absolute deviation) can also be useful for summarizing data because two very different sets of data can have the same mean and median yet be distinguished by their variability.

5. Students learn to describe and summarize numerical data sets, identifying clusters, peaks, gaps, and symmetry, considering the context in which the data were collected. Students in Grade 6 also build on their work with area in elementary school by reasoning about relationships among shapes to determine area, surface area, and volume. They find areas of right triangles, other triangles, and special quadrilaterals by decomposing these shapes, rearranging or removing pieces, and relating the shapes to rectangles. Using these methods, students discuss, develop, and justify formulas for areas of triangles and parallelograms. Students find areas of polygons and surface areas of prisms and pyramids by decomposing them into pieces whose area they can determine. They reason about right rectangular prisms with fractional side lengths to extend formulas for the volume of a right rectangular prism to fractional side lengths. They prepare for work on scale drawings and constructions in Grade 7 by drawing polygons in the coordinate plane.

MATHEMATICS STANDARDS

RATIOS & PROPORTIONAL RELATIONSHIPS

ANALYZE PROPORTIONAL RELATIONSHIPS AND USE THEM TO SOLVE REAL-WORLD AND MATHEMATICAL PROBLEMS.

1. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."

2. Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship. For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."[1]

3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.
   a. Make tables of equivalent ratios relating quantities with wholenumber measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.
   b. Solve unit rate problems including those involving unit pricing and constant speed. For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?
   c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.
   d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities

MATHEMATICS STANDARDS

THE NUMBER SYSTEM

APPLY AND EXTEND PREVIOUS UNDERSTANDINGS OF MULTIPLICATION AND DIVISION TO DIVIDE FRACTIONS BY FRACTIONS.

1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?

COMPUTE FLUENTLY WITH MULTI-DIGIT NUMBERS AND FIND COMMON FACTORS AND MULTIPLES.

2. Fluently divide multi-digit numbers using the standard algorithm.
3. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.
4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. For example, express 36 + 8 as 4 (9 + 2).

APPLY AND EXTEND PREVIOUS UNDERSTANDINGS OF NUMBERS TO THE SYSTEM OF RATIONAL NUMBERS.

5. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-worldcontexts, explaining the meaning of 0 in each situation.
6. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.
   a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., $-(^{-}3) = 3$, and that 0 is its own opposite.
   b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.
   c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.

Expectations for unit rates in this grade are limited to non-complex fractions.

MATHEMATICS STANDARDS

APPLY AND EXTEND PREVIOUS UNDERSTANDINGS OF NUMBERS TO THE SYSTEM OF RATIONAL NUMBERS.

7. Understand ordering and absolute value of rational numbers.
   a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. For example, interpret $^{-}3 > {}^{-}7$ as a statement that $^{-}3$ is located to the right of $^{-}7$ on a number line oriented from left to right.
   b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. For example, write $^{-}3°C > {}^{-}7°C$ to express the fact that $^{-}3°C$ is warmer than $^{-}7°C$.
   c. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. For example, for an account balance of $^{-}30$ dollars, write $|{}^{-}30| = 30$ to describe the size of the debt in dollars.
   d. Distinguish comparisons of absolute value from statements about order. For example, recognize that an account balance less than $^{-}30$ dollars represents a debt greater than 30 dollars.

8. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.

MATHEMATICS STANDARDS

EXPRESSIONS & EQUATIONS

APPLY AND EXTEND PREVIOUS UNDERSTANDINGS OF ARITHMETIC TO ALGEBRAIC EXPRESSIONS.

1. Write and evaluate numerical expressions involving whole number exponents.

2. Write, read, and evaluate expressions in which letters stand for numbers.
   a. Write expressions that record operations with numbers and with letters standing for numbers. For example, express the calculation "Subtract y from 5" as 5 – y.
   b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms.
   c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). For example, use the formulas $V = s^3$ and $A = 6 s^2$ to find the volume and surface area of a cube with sides of length s = 1/2.

3. Apply the properties of operations to generate equivalent expressions. For example, apply thedistributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y.

4. Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for.

REASON ABOUT AND SOLVE ONE-VARIABLE EQUATIONS AND INEQUALITIES.

5. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.

6. Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.

7. Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and x are all nonnegative rational numbers.

8. Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on number line diagrams.

MATHEMATICS STANDARDS

REPRESENT AND ANALYZE QUANTITATIVE RELATIONSHIPS BETWEEN DEPENDENT AND INDEPENDENT VARIABLES.

9. Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation $d = 65t$ to represent the relationship between distance and time.

MATHEMATICS STANDARDS

GEOMETRY

SOLVE REAL-WORLD AND MATHEMATICAL PROBLEMS INVOLVING AREA, SURFACE AREA, AND VOLUME.

1. Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
2. Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.
3. Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems
4. Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.
5. Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.
6. Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.

MATHEMATICS STANDARDS

STATISTICS & PROBABLITY

DEVELOP UNDERSTANDING OF STATISTICAL VARIABILITY.

1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.
2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.

SUMMARIZE AND DESCRIBE DISTRIBUTIONS.

4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots
5. Summarize numerical data sets in relation to their context, such as by:
   a. Reporting the number of observations.
   b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.
   c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.
   d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.